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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TSOY, ELENA

ART UNIT

PAPER NUMBER

1762

6

DATE MAILED: 01/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,129

Applicant(s)

DOHRING, DIETER

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Specification

1. The disclosure is objected to because of the following informalities:
page 2, line 22, "a features" should be changed to -- features --,
page 4, line 2, "one can be achieve" should be changed to -- one can achieve --,
page 4, line 16, "ε caprolactam" should be changed to -- ε-caprolactam --.

Claim Objections

2. Claim 6 is objected to because of the following informalities: a phrase "... wherein aluminum oxide in the form or corundum or out of the melt..." seems to be incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "highly" in claim 1, line 2, is a relative term which renders the claim indefinite. The term "highly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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Claim 1, line 13, a phrase "the final area density" renders the claim indefinite because it is not clear what area's density is actually claimed.

Claim 5 recites the limitation "the abrasive substance" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07001414 in view of Fischer et al (US 6,0231,670).

JP 07001414 discloses a method of impregnating a pattern (decorative) paper used for the production of wear-resistant laminate material comprising: a) taking pattern (decorative) paper; b) impregnating the decorative paper with amino resin, and c) additionally spraying onto said impregnated decorative paper an additional layer of suspension of abrasive silica modified with Ag ions in the amino resin. See Abstract.

JP 07001414 fails to teach that step b) is carried out using metering rollers.

Fischer teaches that the use of metering rollers for impregnating a paper web with a resin allows varying amount of the applied resin corresponding to the paper weight. See Fig.1; column 3, lines 43-67.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used metering rollers to impregnate a paper web of JP 07001414 with a resin in order to vary amount of the applied resin corresponding to the paper weight, as taught by Fischer.

As to claim 3, amino resin is melamine resin. See Abstract.

7. Claims 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of JP 07001414 and Fischer et al (US 6,023,670), further in view of O'Dell et al (US 5,545,476) and Hoover et al (US 2,958,593).

Combination of JP 07001414 and Fischer, as been discussed in paragraph 6, fails to teach that:

a dispersion comprises 100 parts of amino resin, 20-95 parts of abrasive substance, 0.5-2.5 parts of silane adhesion promoter, 5-25 parts of a flow-promoting agent, 0.1-0.4 parts of a wetting agent, 0.05-0.4 parts of a separating agent and an amino resin hardener (Claim 2);

the flow-promoting agent is polyglycol ether (Claim 4).

O'Dell teaches that according to conventional practice an abrasive resistant melamine composition for decorative paper sheet (See column 4, line 47) comprises abrasive particles (See column 4, lines 59-67), silane adhesion promoter for improving adhesion of the abrasive particles (See column 6, lines 43-49), a small amount of a wetting agent, humectant, mold release agent (a separating agent) and a catalyst (hardener) (See column 6, lines 34-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used conventional additives such as silane adhesion promoter, a wetting agent, humectant, mold release agent (a separating agent) and a catalyst (hardener) in an abrasive resistant melamine composition of combination of JP 07001414 and Fischer in order to achieve conventional benefits, as taught by O'Dell.

As to addition of a flow-promoting agent such as polyglycol ether, Hoover teaches that uniform distribution of abrasive particles on the surface of a non-woven web (See column 6, lines 47-48) can be achieved by spraying a dispersion of abrasive particles in amino-containing resin with adjusted viscosity through nozzles while agitating the dispersion in a tank. The viscosity of the dispersion can be adjusted by addition of a flow-promoting agent such as polyglycol ether. See column 5, lines 24-40, 46-55; column 6, lines 31-46.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a flow-promoting agent such as polyglycol ether to a decorative paper coating dispersion of combination of JP 07001414 and Fischer for adjusting the viscosity of the dispersion for spraying applications in order to achieve uniform distribution of abrasive particles on the surface of the decorative paper, as taught by Hoover.

It is held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered by routine experimentation the optimum amount of additives (including claimed amounts) in a decorative paper coating dispersion of combination of JP 07001414 and Fischer so that to achieve benefits of O'Dell or Hoover.

8. **Claims 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of JP 07001414 and Fischer et al (US 6,023,670), further in view of Lindgren et al (US 5,034,272).

Combination of JP 07001414 and Fischer, as been discussed in paragraph 6, fails to teach that abrasive substance is silicon carbide having a mean particle size of 60-160 microns (Claim 5)

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or aluminum oxide having a mean particle size of 60-160 microns (Claim 6) or a mixture of silicon carbide and aluminum oxide (Claim 7).

Lindgren teaches that silica abrasive particle is functionally equivalent to silicon carbide or aluminum oxide for making a wear-resistant surface paper layer of a decorative laminate. See column 3, lines 19-25. The average particle size should be in the range of 1-80 microns. If abrasive particles are too big the surface of the laminate is rough and unpleasant, while too small particles give too low abrasion resistance. See column 3, lines 30-35.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicon carbide or aluminum oxide or a mixture thereof instead of silica in combination of JP 07001414 and Fischer since silicon carbide or aluminum oxide or a mixture thereof is functionally equivalent to silica, as shown by Lindgren, and the selection of any of these known abrasive particles would be within the level of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicon carbide or aluminum oxide or a mixture thereof for making a wear-resistant surface paper layer of a decorative laminate of combination of JP 07001414 and Fischer having a mean particle size of 1-80 microns since too big abrasive particles produce are rough and unpleasant surface of the laminate, while too small particles give too low abrasion, as taught by Lindgren.

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9. The prior art made of record and not relied upon is considered pertinent to applicant's invention.

JP 03136807 discloses a method of impregnating decorative paper used for the production of wear-resistant laminate flooring material with a dispersion of abrasive silica or aluminum oxide particles having a mean particle size of 40-300 microns. See Abstract.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Elena Tsoy
Examiner
Art Unit 1762

January 17, 2002

MICHAEL BARR
PRIMARY EXAMINER

